

ABSTRACT OF THE DISCLOSURE

A medical imaging system automatically acquires two-dimensional images representing a user-defined region of interest despite motion. The plane of acquisition is updated or altered adaptively as a function of detected motion. The user-designated region of interest is then continually scanned due to the alteration in scan plane position. A multi-dimensional array is used to stabilize imaging of a region of interest in a three-dimensional volume. The user defines a region of interest for two-dimensional imaging. Motion is then detected. The position of a scan plane used to generate a subsequent two-dimensional image is then oriented as a function of the detected motion within the three-dimensional volume. By repeating the motion determination and adaptive alteration of the scan plane position, real time imaging of a same region of interest is provided while minimizing the region of interest fading into or out of the sequence of images.